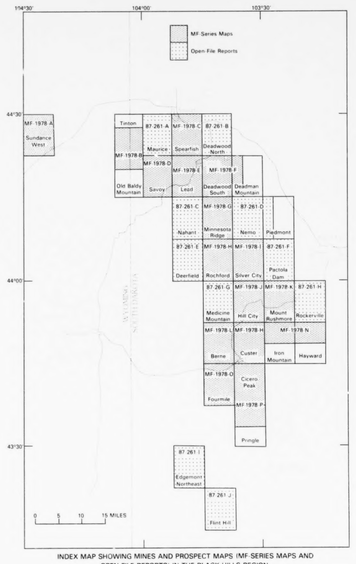
DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

OPEN-FILE REPORT
OF 87-261-E



INDEX MAP SHOWING MINES AND PROSPECT MAPS (MF-SERIES MAPS AND OPEN-FILE REPORTS) IN THE BLACK HILLS REGION

EXPLANATION

Mine—Location known. Distinguished from prospect by name of mine next to symbol. Alternate names or synonym(s) in parentheses. If there is enough space on the map, the entire mine name and synonym(s) are shown; otherwise, mine name may be abbreviated and synonym(s) deleted from map. Full mine names and all synonyms are shown in the "Alphabetic list of mines"

Shaft

Open pit or other type of opening

Gravel pit

Mine—Approximate location shown. Open pit, shaft, adit, or other type of opening

Prospect

Pit

Patented claim—See alphabetic and numeric lists of patented claims. Asterisk (*) indicates part of claim extends into adjacent quadrangle. Dollar sign ($) indicates most of claim in adjacent quadrangle. Boundaries between claims not shown

Lode claim—Orientation of number parallel to long axis of claim

Placer claim—Number approximately in center of claim

INTRODUCTION

This map is one in a set of 26 maps (see index map) at 1:24,000 scale of the Black Hills region of South Dakota and Wyoming on which are shown a geologic classification of mines, a bibliography of mineral deposits, and locations of active and inactive mines, prospects, and patented mining claims. Some of these maps have been published as U.S. Geological Survey Miscellaneous Field Studies Maps (MF-series) and some as U.S. Geological Survey Open-File Reports (OF-series); see index map. An earlier unpublished version of this set of maps was the data base from which plate 4 (scale 1:250,000) of DeWitt and others (1986) was compiled. Subsequent to that publication the set has been revised and updated and prospects and patented claims have been added. These revised and more detailed 1:24,000-scale maps should be used for the equivalent areas of plate 4 of DeWitt and others (1986).

J. J. Norton, J. A. Redden, J. P. Gries, and W. L. Roberts reviewed the set of maps. Rob Yambrick helped digitize much of the information.

SOURCES OF INFORMATION

Outlines of patented mining claims were obtained from 1:24,000-scale Forest Service Status Plats, available for inspection at the U.S. Forest Service, Rocky Mountains Region, 11,117 West 8th Avenue, Denver, CO 80225. Names of patented claims were obtained from the Pennington County Courthouse, Rapid City, South Dakota. Claims have been located as accurately as possible, but this map is not to be used for legal nor precise locations of mining claims.

Locations of mines and prospects were compiled from all available published and unpublished data. The locations of active and inactive mines in this quadrangle were taken from Allsman (1940), Bayley (1972a, 1972b), Connolly and O'Harra (1929), Harrer (1966), Larson (1931), Luza (1970), O'Harra (1922), U.S. Bureau of Mines (1954, 1955, 1986), and U.S. Geological Survey (1986). Also, in some instances, different sources of information gave conflicting location information for mines with the same name. Where possible, this conflict was resolved by comparing the name of the mine to adjacent patented claims, by comparing the description of the deposit to the known geology and topography of the area, or by communication with past owners of the property. In some instances, a unique location was not possible with existing information; in that event the most logical location was chosen. The location of some or many mines on this map may differ from those in present data bases such as the U.S. Bureau of Mines Mineral Inventory Location System (MILS) or the U.S. Geological Survey Mineral Resources Data System (MRDS), formerly the Computerized Resources Information Bank (CRIB).

Locations of prospects in this quadrangle were taken from Bayley (1972b), Barton and Paige (1925), and Kuhl (1982). Because many quadrangles, or parts of quadrangles, have not been mapped to as much detail as other quadrangles, comparison of the density of prospects from one quadrangle to another, or even within one quadrangle, is not warranted. As an example, part of a quadrangle may be shown on the map as having more prospects than another part, but the first part may have been mapped in greater detail than the second part. Similarly, a part of a quadrangle may have many prospects that are not shown on this map because the original source of information did not show prospect pits.

Geologic data for the map are from Bayley (1972a, 1972b), Connolly (1933), Darton and Paige (1925), DeWitt and others (1986), Kleinkopf and Redden (1975), Kuhl (1982), Luza (1970), Redden and Norton (1975), J. A. Redden (unpub. data, 1986), and Woodard and Lovseth (1931).

PRECISION OF LOCATION INFOMATION

All mine symbols except the unfilled diamond (◇) indicate that the location of the deposit is known within a 200-foot radius. The type of opening at a mine (adit, shaft, open pit, trench, and others) is designated by one of ten different symbols. The unfilled diamond symbol indicates that the location is known only to within a 1/4 mile radius, and that the type of mine opening is unknown.

Mines and prospects whose locations could not be verified to within less than a 1/4 mile radius were not plotted on the map.

PATENTED CLAIM AND MINE LISTS

Patented mining claims are listed both numerically and alphabetically. Mines are listed alphabetically. For ease in locating the claim or mine on the map, the legal description (section, township, range) is given.

Each patented claim on the map is represented by a number keyed to the numeric and alphabetic listings, where possible, the claim numbers are plotted approximately in the center of the claim and parallel to its long axis. Boundaries between adjacent claims are not shown. An asterisk (*) following a claim number indicates that most of the claim is in this quadrangle, but it extends into the adjacent quadrangle. A dollar sign ($) following a claim number indicates that most of the claim is in the adjacent quadrangle, but part of it is in this quadrangle. Claims outlined with a solid line are patented lode claims; claims outlined with a dotted line are patented placer claims. Many placer workings on unpatented claims have not been plotted on the maps, principally because the workings lacked a name.

On the map, the most common or most used name of a mine is normally next to its mine symbol. If there is space, any alternate names or synonyms are in parentheses following the most common name. On some maps, where space does not permit showing the first name or any alternate names, the names are shown by a single letter, two letters, or an abbreviation of the name; the mines are keyed to that letter or abbreviation in the alphabetic and numeric lists. Mines with more than one name have the alternate name(s) or synonym(s) shown in parentheses in the alphabetic lists. The first alternate name or synonym is also alphabetized in the alphabetic list of mines; second or third alternate names may not be alphabetized. Uncertain alternate names are not alphabetized and are followed by a query (?).

CLASSIFICATION OF MINES AND DEPOSITS

Mines and deposits are categorized according to geologic criteria of age, environment of formation, and contained metals, as in DeWitt and others (1986, p. 52-53). Deposit-type letter designations (C, D, and so on) corresponding to those in DeWitt and others (1986) for deposit types are used in the alphabetic list of mines. The criteria used for the deposit types are briefly summarized below and are explained more fully in DeWitt and others (1986).

PRINCIPAL TYPES OF DEPOSITS

C--Proterozoic carbonate-, silicate-, and sulfide-facies iron-formations are syngenetic stratiform deposits of gold, silver, and arsenic formed in a submarine environment about 1.8-2.2 Ga (billion years ago). The metals were concentrated in sedimentary and volcaniclastic rocks by biologic, sedimentologic, or hydrothermal processes.

D--Proterozoic veins and shear zones are discordant deposits of gold, silver, lead, and minor amounts of zinc, copper, and arsenic formed in a metamorphic and tectonic environment about 1.6-1.9 Ga. Hydrothermal solutions concentrated the metals in metasedimentary rocks.

P--Placer deposits are colluvial concentrations of iron-rich material found in stream bottoms and along canyon walls that are formed in the present-day surface weathering environment. Cool, moist conditions and locally reducing environments concentrate the iron and minor manganese.

Z--Phanerozoic vein deposits are discordant to concordant concentrations of base and precious metals formed in a tectonic environment about 65 Ma. Hydrothermal fluids rich in lead, zinc, and silver, and containing minor amounts of gold deposited sulfide minerals in fissures created by uplift of the Black Hills.

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Alphabetic list of mines

[Deposit-type letter designations are explained in the text]

Deposit Type	Name of Mine	Location
D	Bee	Sec. 30 T2S R3E
C	Black Eagle	Sec. 33 T2S R3E
C	Black Tunnel	Sec. 32 T2S R3E
C	Divide Lode	Sec. 32 T2S R3E
D	Divide and Ridge	Sec. 29 T2S R3E
C,E	Golden West	Sec. 3 T1S R3E
	Gravel Pit	Sec. 27 T1S R2E
P	Iron Hill	Sec. 4 T1S R3E
C	King of the West	Sec. 28 T2S R3E
P	Lessering Bog	Sec. 19 T2S R3E
P	Lessering No.1	Sec. 19 T2S R3E
P	Lessering No.2	Sec. 19 T2S R3E
P	Solomon Gulch	Sec. 21 T2S R3E
C?	White Weazel	Sec. 34 T2S R3E
C	Yellow Bird	Sec. 28 T2S R3E

Alphabetic list of patented claims

[Asterisk (*) indicates that part of claim extends into adjacent quadrangle; dollar sign ($) indicates that most of claim is in the adjacent quadrangle]

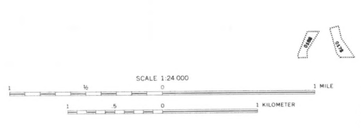
Claim number	Name of Claim	Location
004	Atlantic No.4	Sec. 33 T2S R3E
005	Atlantic No.5	Sec. 33 T2S R3E
003	Bee No.3	Sec. 30 T2S R3E
012	C. Benedict No.2	Sec. 3 T1S R3E
011	C. Benedict No.3	Sec. 3 T1S R3E
010	C. Benedict No.4	Sec. 4 T1S R3E
008	C. Benedict No.5	Sec. 33 T2S R3E
006	C. Benedict No.6	Sec. 33 T2S R3E
007	C. Benedict No.7	Sec. 33 T2S R3E
001	Climax	Sec. 30 T2S R3E
0166	Gold Run Placer	Sec. 32 T1S R3E
013	Hillside	Sec. 3 T1S R3E
0175	Matt Placer	Sec. 32 T1S R3E
0128	Plug Cut	Sec. 3 T1S R3E
009	Sampson	Sec. 33 T2S R3E
015	Seven Hills Lode	Sec. 31 T1S R3E
014	Seven Hills Placer	Sec. 31 T1S R3E
002	Solnor	Sec. 30 T2S R3E

Numerical list of patented claims

[Asterisk (*) indicates that part of claim extends into adjacent quadrangle; dollar sign ($) indicates that most of claim is in the adjacent quadrangle]

Claim number	Name of Claim	Location
001	Climax	Sec. 30 T2S R3E
002	Solnor	Sec. 30 T2S R3E
003	Bee No.3	Sec. 30 T2S R3E
004	Atlantic No.4	Sec. 33 T2S R3E
005	Atlantic No.5	Sec. 33 T2S R3E
006	C. Benedict No.6	Sec. 33 T2S R3E
007	C. Benedict No.7	Sec. 33 T2S R3E
008	C. Benedict No.5	Sec. 33 T2S R3E
009	Sampson	Sec. 33 T2S R3E
010	C. Benedict No.4	Sec. 4 T1S R3E
011	C. Benedict No.3	Sec. 3 T1S R3E
012	C. Benedict No.2	Sec. 3 T1S R3E
0128	Plug Cut	Sec. 3 T1S R3E
013	Hillside	Sec. 3 T1S R3E
014	Seven Hills Placer	Sec. 31 T1S R3E
015	Seven Hills Lode	Sec. 31 T1S R3E
0166	Gold Run Placer	Sec. 32 T1S R3E
0175	Matt Placer	Sec. 32 T1S R3E

□ Gravel Pit



This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature

MAP OF MINES, PROSPECTS, AND PATENTED MINING CLAIMS, AND CLASSIFICATION OF MINERAL DEPOSITS IN THE DEERFIELD 7 ½ MINUTE QUADRANGLE, BLACK HILLS, SOUTH DAKOTA

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